Project no.: **770504**

Project full title: **PrEseRvIng and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regionS**

Project Acronym: **PERICLES**

Deliverable number:	D2.1
Deliverable title:	Internal report of the key indicators and cross cutting themes in PERICLES case studies
Work package:	WP2
Due date of deliverable:	M8
Actual submission date:	M8 – 31.12.2018
Start date of project:	01/05/2018
Duration:	36 months
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Dissemination level of this deliverable	PU
Nature of deliverable	Report

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770504. Further information is available at www.pericles-heritage.eu.

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1 Executive Summary

D2.1, "Internal report of the key indicators and cross cutting themes in PERICLES case studies" is an internal report designed to provide a summary of the key indicators and cross-cutting themes found in PERICLES case regions. In this report, the case regions are described with cultural heritage variables (indicators) to be investigated then grouped, compared and contrasted. The cross-cutting themes found among the case regions are then described and discussed in order to further work on synthesizing the CH case region work to feed into the future work on making the framework. Maritime and coastal cultural heritage is currently at risk from a variety of factors, including those found within the themes, of usage, risks from humans and human society, and risks from neglect

The CH indicators and themes presented are those to be investigated in PERICLES and not an exhaustive list of all CH found in the Case Regions.

This deliverable, combined with the related and supplementary demo work in Task 2.2 "Overview of CH and land/seascapes in PERICLES case regions" is critical for setting the stage and background for future work in WPs 3-5.Introduction

The purpose of Deliverable 2.1 is to provide a summary of the key indicators and cross-cutting themes found in PERICLES case regions for project partners for comparative, analytical purposes for the initial, project research.

In this report, the case regions are described with key variables (indicators) grouped, compared and contrasted by key indicators such shared CH type. Following this, the cross-cutting themes are presented for use in future PERICLES work on the framework. These themes included Traditional practices, Industrial heritage, Gastrotourism, Blue Growth, including tourism, Marine Spatial Planning, Coastal adaptation (climate change), and Coastal paths.

This deliverable, combined with the related and supplementary work in Task 2.2 "Overview of CH and land/seascapes in PERICLES case regions" is critical for setting the stage and background for the subsequent WPs 3-5.

1.1 Overview on structure

The report begins with descriptions of the case regions which include the CH and currently known risks. This is followed by Tables presenting the key indicators surrounding the PERICLES case regions. The next section includes a discussion which groups and compares the indicators. The final section groups the risks to CH thematically.

2 Case Regions

Section Two provides a description of each PERICLES Case Region, to set the stage for the comparison of variables and themes.

2.1 Estonia Case region- Pärnu Bay and Gulf of Livonia Islands

The primary CH stakeholders found in this PERICLES case region (Pärnu Bay and Gulf of Livonia Islands) include those in tourism, fisheries, local communities, and marine policy planners.

The Baltic Sea is rich in various forms of maritime CH from underwater archaeological sites, transitioning fishing communities, historic and emerging coastal tourism, and navigation.

Pärnu Bay, lying to the northeast of the Gulf of Livonia in southwest Estonia, is a relatively shallow bay, averaging only 3.7 metres deep. With its sandy beaches, Pärnu Bay is an important summer holiday destination for Estonians as well as the country´s main coastal fisheries. Its catch of approximately 14 030 tonnes (2009) accounted for over 84% of the country´s coastal fishing catch. However, the area suffers from poor infrastructure as well as poor water quality and sanitation while the fishing sector lacks equipment for primary processing. Improvements in these areas are prerequisites for developing a local processing industry as well as pursuing a strategy for diversification, in particular tourism. Almost the entire region is covered by Natura 2000, which also affects development.

The Pärnu Bay region and islands in the Gulf of Livonia including islands such as Kihnu and Ruhnu offer a meaningful case study of diminishing natural resource and marine based local economy and locals' relationship with new forms of tourism, such as heritage tourism and yachting. Additionally, Kihnu's local traditions and culture are celebrated as one of UNESCO's Masterpieces of Oral and Intangible Heritage of Humanity (2003); the cultural heritage of the island includes traditions, games, music, dances, handcrafts and clothes. Music is one of the key parts of the tradition on the island. Women on the island sing and dance during religious feats and other type of celebrations. Traditional clothing of the island symbolizes the poems and the legends of the island. Kihnu is also home to one of the few remaining matriarchal societies in Europe.

Kihnu residents grapple with the UNESCO designation and increasing reliance on tourism and want to drive their own development and remain critical to those from outside looking to extract heritage resources without offering ideas and initiatives that feed back into the island.

Both Kihnu and Ruhnu have been inhabited since prehistory and offer a rich archaeological heritage. According to surveys, the earlier settlements of Kihnu reach back to the Bronze Age. On Ruhnu, the first archaeological artefacts are related to seal hunters stopping on the island seasonally and date back to around 5000 BC. During historical time, the island was inhabited by a permanent Swedish-speaking community who fled the Soviet occupation in 1944 and the island was repopulated by Estonians. Historical sources and archaeological finds confirm the existence of human activity on Manija Island at least from the second half of the 17th century, when there were at least two settlement units.

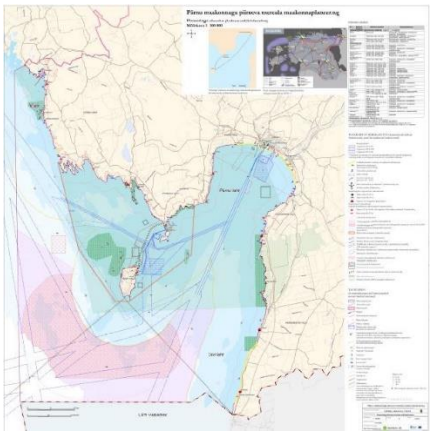
2.2 MSP and multiple-use of the Sea

In addition to the unique CH designated protective status by UNESCO, there are issues surrounding the use of the seas. In 2015, Estonia passed a Planning Act which also regulates maritime spatial planning. Based on this, national maritime spatial planning for Estonian marine areas (internal waters, territorial waters and EEZ) was initiated in 2016.

The Planning Act makes a clear distinction between terrestrial planning and maritime spatial planning. Previously, maritime spatial planning was based on terrestrial planning and it was done at the county level as pilot projects. According to the new Planning Act, maritime spatial planning will be carried out at the state level, as an extension to the national plan. The national maritime spatial plan covers both the territorial waters and the EEZ.

Possible subjects suggested to be covered by the MSP are infrastructure (energy, transport), providing sustainable use of fisheries, taking into account the MPAs, and describing measures for maintaining the good and healthy status of the environment. The maritime spatial plan was intended to be a long-term national level plan, which will give guidelines to different institutions in charge of allowing the use of marine areas for different purposes, such as offshore energy, shipping etc. A Strategic Environmental Assessment (SEA) is compulsory for the maritime spatial plan, according to the Planning Act.

Map: Draft-planning proposal, September 2015



Source: parnumeri.hendrikson.ee/images/failid/Pärnu_merealad_inglk.pdf

The Pärnu Bay MSP included extensive stakeholder participation and transboundary cooperation. According to the Estonian Planning Act, all plans, including maritime spatial plans, must be made public throughout the process.

Table2.1.1: Listing of tangible and intangible CH in Estonian Case Region

Case Region	Tangible CH	Intangible CH
Estonia	Underwater heritage, including shipwrecks. Land-based heritage: landing places / slips, boatbuilding sites. Archeological sites related to the sea.	Oral traditions and stories; Cultural events (Kihnu Sea and Folklore Festival, RäimeWest) Boatbuilding techniques, Handicraft related to fishing and sea, seafaring history

Table 2.1.2: Listing of themes and Issues in the Estonian Case Region

Case Region	CH Themes	CH Risks and Issues
Estonia	Underwater cultural heritage, including shipwrecks (digitizing and visualizing); Using CH in local identity and entrepreneurship. Cultural connections through fishing and maritime navigation; Folk traditions; seafaring & boat-building heritage.	Poor infrastructure; poor water quality; lack of primary processing facilities in fishing industry; Natura 2000 site threatening development; increasing reliance on tourism; depopulation, poor stock status. A large proportion of underwater CH must be assumed as of yet undiscovered and this must be taken into consideration in MSP. Lack of ideas/skills/experiences of using CH in tourism and other Blue Growth developments. Declining base for services and economic activity, Marine renewable energy and aquaculture developments. Lack of sensitivity to CH in Blue Growth developments.

Risks to Cultural Heritage in this case region are related primarily to human factors (e.g. fisheries management policies, changes in population structure, touristic or industrial development with no regard to CH) and also to environmental changes in global and local level including pollution. CH that is unknown or unrecognized to the local population is also left unprotected.

2.3 Danish Case region

The Danish case region focuses on development challenges and CH themes and risks in several coastal and maritime areas in both southern and northern Denmark. These areas are characterised by low and aging populations, limited infrastructure, risk from outmigration, and increased pressures from tourism. Here, visitors and locals may be able to spot many CH elements and qualities, however the specific development processes in these areas are often without particular regard to the application of CH. Meanwhile, coastal and rural areas in Denmark are, in general, experiencing an increased attention to maritime, tourism and local development policies. In addition, there is an on-going trend of deregulation of the traditionally strong protection of coastal areas in Denmark. Altogether, these pose both new opportunities for including CH aspects into development discussions, but it also contain risks that CH aspects may be endangered or given lower priorities in the transition of such areas.

Denmark has a rich maritime and seafaring history. Contemporary Denmark continues to have links to shipping and transport, but also looks to uncover its maritime heritage as a means for place making and tourism. Here, the islands of southern Denmark are in a favourable position to deal with CH aspects relating to Denmark's historical position as 'the gatekeeper of the Baltic'.

The island of Ærø, for example, has a long history with archaeological sites dating back over 10000 years, including burial mounds and serving as a Ting place (site for settling disputes). In more recent history (from the 15th Century) island communities served as centres for shipping, transport, and piracy. Though the island was divided into different Duchies over the years, culturally Jante Law continues to have an impact, while a wider, island identity is evidenced by their fight to save their Maritime School from closure. Island communities such as Marstal have a long history of shipping and navigation supporting trade and the Danish Merchant Marine for centuries.

Ærø is also working to balance its cultural heritage with contemporary society and needs. The island views itself as a pioneer in the "Green Transition" in energy with a 33,000m^2+ solar power plant, one of the largest in the world at the time of its completion. The Municipality also received a grant for funding a "Green Ferry"- a ferry run completely by green electricity.

Moreover, many small coastal ports and communities throughout Denmark developed as trading hubs and then transitioned into fishing communities. Fishing communities in Denmark have witnessed many changes, but select communities have worked to preserve this way of life and the supporting industries (e.g., wooden boatbuilding craft) that allow fishing fleets to land in their local villages.

This is the case in the Thorup Strand and Slettestrand area, a stretch of North Sea coast in the northern part of Jutland, in mainland Denmark. Here, seagoing fishing boats are pulled onto the beach by traditional methods. In addition, traditional boatbuilding takes place and there is increased attention in the area to try to combine the development of local communities with maritime CH aspects, arts and tourism. In addition, new approaches to bottom-up creation of local development strategies and plans have been tested in this area, facilitated by local authorities but carried out by locals.

Also in northern Denmark, the Vilsund region of the western Limfjord is experiencing a transition in development perspectives. The Vilsund area is home to stakeholders interested in adapting to contemporary conditions by increasing the use of their maritime and coastal landscape qualities for recreational, tourism and sports purposes. For instance, a former small-scale ship yard has recently been taken over by a local association with the purpose to help boost inshore watersports activities. Here, a

strengthening of the awareness of maritime 'fjord-based' CH can help to provide a unique 'Blue growth' identity, in which watersports, tourism and community development is linked by CH elements. Such Blue growth initiatives may indeed lead to new opportunities in the area, but it may also generate risks to cultural heritage and seascapes.

The key cultural heritage stakeholder groups found in the Danish case region include those in tourism, fisheries, local port and beach communities, maritime museums, marine policy/planning, shipping and municipal actors (including educational institutions).

Table2.2.1: Listing of tangible and intangible CH in the Danish Case Region

Case Region	Tangible CH	Intangible CH
Denmark	Port infrastructure; ships and boats	Maritime and seafaring history and Cultural Heritage; fishing; cultural connections through fishing and maritime navigation; oral and folk traditions; seafaring & boat-building heritage

Table2.2.2: Listing of CH Themes and CH Risks and Issues in the Danish Case Region

Case Region	CH Themes	CH Risks and Issues
Denmark	Rich maritime and seafaring history; unique heritage structures; fishing; boat-building; cultural connections through fishing and maritime navigation; oral and folk traditions; seafaring & boatbuilding heritage	Low population; limited infrastructure; risk from outmigration; increased pressures from tourism; development without regard to tangible CH; poor stock status; deregulation of the strong protection of coastal areas; increased attention to maritime, tourism and local development policies

Current risks to Maritime Cultural heritage in the Danish case region are related to demographic change, climate change, and Blue Growth Agendas and policies.

2.4 Wadden Sea Case Region

The key cultural heritage stakeholder groups found in the Wadden Sea case region include those in local communities, fisheries, nature conservation, tourism, policy arenas.

To the general public, the Wadden Sea is known for its nature qualities which symbolic value is portrayed by images with large and open skies, a diversity of water and land images, yellow dunes and the animals living in this intertidal zone (birds and seals). For these reasons, the area is therefore attractive to many people, for nature conservation, for touristic activities, for bird watching, mudflat hiking, and for recreational boating (both sailing and powerboats). Tourists are a very diverse group of people, both families, elderly and the youth come to the Wadden islands to enjoy themselves. As such, the Wadden Sea is not only an important ecological entity, but also an economic one since tourism is an important economic activity with 1.3 million visitors in 2015[1] (in the Netherlands only). In addition, the region is

[1] https://www.cbs.nl/nl-nl/nieuws/2016/31/1-3-miljoen-toeristen-op-vakantie-naar-de-wadden

important for salt winning, oil and gas and fisheries (mainly shrimp fishing) and agriculture. Coastal communities depend on these activities for their livelihood.

The focus of this case region for PERICLES is to understand, preserve and harness CH in the Dutch Wadden Sea. The Wadden Sea is a vast coastal wetland area on the North Sea coast of major international importance, comprising tidal flats, islands, salt marshes and other habitats, stretching over 450 km along the North Sea coast of the Netherlands, Germany and Denmark. At almost 10,000 square kilometres in extent, it is one of the largest wetlands in the world. The Wadden Sea is an area of specific national and international interest (which is expressed in its status as World Heritage since 2009, the designation as national park, and nature reserves (under N2000 law), hosting many migratory birds and with special landscape and cultural heritage values. CH values in the Wadden sea, range from archaeological digs, such as the 'king's terp' of Wijnaldum, to all kind of traditional customs and practices such as the horse-driven lifeboat on the island of Ameland, the commander houses of whale hunting captains, mussel and small-scale fisheries cultures. The area contains many landscape references to the Dutch historical 'love-hate' relationship with the sea; seeking and creating protection against floods (dikes and *wierden* en *terpen*) and creating land of water (*inpolderen*). This history and practice of a common need for protection has been foundational for the Dutch political preference to cooperate in governance (*polderen*).

Challenges in the area circle around shared use of the space for nature protection and sustainable fisheries. The Wadden are important for mussel fisheries and shrimp fisheries. In 2008 in the Netherlands the mussel fisheries sector, nature organisations and the Ministry of Agriculture, Nature and Food Quality made agreements about the transition of the mussel sector and nature recovery in the Wadden Sea. The agreement aimed to achieve a Rich Wadden Sea by 2030 for nature and for users and is carried out within the network organisation – Programme Towards a Rich Wadden Sea (PRW). The parties have agreed on a common aim: to create a Wadden Sea area of robust nature in combination with sustainable perspectives for the users in the area, including cultural heritage values. In 2015, nine strategies have been defined to reach the objective, for example attaining sustainable fisheries, creating sustainable harbours, and a sustainable World Heritage Wadden Sea tourism.

On an international level, cooperation between Denmark, Germany and the Netherlands is organised by the Common Wadden Sea Secretariat. The Wadden Sea has enjoyed a protected status for more than 20 years and within the *Trilateral Cooperation for the Protection of the Wadden Sea* objectives have been formulated for management. The protection of this unique ecosystem is since 1991 agreed by the three Wadden Sea countries. The significance of the Wadden Sea is recognised in its placement on the list of UNESCO's World Heritage Sites.

Information about the marine environment, landscape and cultural heritage can be contested between a diversity of actors due to conflicting interests but also due to the very nature of a diversity in experience, of recognising and understanding its dynamics (e.g. seasons, climate change), the invisibility (e.g. reading the sea landscape), complexity and uncertainty. To facilitate information sharing, learning and conservation to understand, preserve and harness CH it is necessary to develop spaces for stakeholder dialogue and participatory conversations should re-create a / the reality of a /the Wadden Sea environment with a focus on complexities, seasonality, and diverse institutions and policy areas in an international context which adds more socio-cultural challenges than mere language barriers.

Table2.3.1: Listing of tangible and intangible CH in the Wadden Sea Case Region

Case Region	Tangible CH	Intangible CH
Wadden Sea	Coastal landscape, including coastal defenses, structures in the landscape and buildings referring	Maritime and seafaring history; socio-ecological system within one of world's

	to the maritime and seafaring history	largest wetlands; culinary knowledge; fishers' knowledge, mudflat hiking

Table2.3.2: Listing of tangible and intangible CH in the Wadden Sea Case Region

Case Region	CH Themes	CH Risks and Issues
Wadden Sea	One of the largest wetlands in the world; seafaring heritage; fisheries and mariculture; marine parks; landscape conservation	Divided governance; (past) conflicts between exploitation (gas extraction and fisheries) and nature conservation; impacts of climate change; unsustainable development; coastal defense

Current risks are related to governance challenges; past conflicts between exploitation (gas extraction and fisheries) and nature conservation; climate change; unsustainable development; and coastal defense.

2.5 Scotland and Northern Ireland Case Region

The key cultural heritage stakeholder groups found in the Scotland and Northern Ireland case region include those in the heritage, tourism, fisheries and aquaculture, as well as those in local communities, local crofters, those in marine policy/planning, and in local government.

This large-scale regional case study seeks to understand, preserve and harness CH across the Atlantic seaboard and inner seas of the west coasts of Scotland and the coast of Northern Ireland. There are strong ties between the Irish and Scottish coasts in terms of Gaelic and Irish language, history and culture, emigration and diaspora, tangible and intangible Celtic Christian and pre-Christian religious heritage, smallholder-crofting culture, inshore fisheries and industrial maritime heritage (shipbuilding) in the ports of Belfast and Glasgow. Much of the region is rural, and is faced with demographic challenges in terms of a decreasing and aging population. This generates a vicious cycle of a declining base for services and economic activity, particularly in combination with declining central government budgets under austerity policies. PERICLES will explore how traditional sectors such as crofting and fisheries can adapt, how opportunities for blue growth based on CH, such as through CH-tourism, gastronomy and creative industries can help to tackle these challenges, and how blue growth developments such as marine renewable energy and aquaculture may generate risks to CH but also potentially generate new CH. We will moreover consider common policy challenges in terms of regional policy such as the proposed Scottish Islands Bill and cross-boundary marine and coastal planning and post-Brexit fisheries policy that are likely to have significant implications for cultural heritage. Activities in this case region will include both the large-scale citizen science cultural heritage mapping work common to all case studies, a region wide demo focused on integrating CH into marine and coastal spatial planning and three targeted local demos that deal with key threats and opportunities in relation to CH.

Table2.4.1: Listing of tangible and intangible CH in the Scotland/N.Ireland Case Region

Case Region	Tangible CH	Intangible CH
Scotland & Northern Ireland	Port infrastructure, ship wrecks, submerged aircraft from WWII, lighthouses, prehistoric coastal forts and defense settlements, medieval castles, cairns, Christian chapels and settlements, historic marine protected areas	Crofting practices (i.e. swimming cattle to market), songs, stories, beliefs, historic seafaring networks

Table2.4.2: Listing of tangible and intangible CH in the Scotland/N.Ireland Case Region

Case Region	CH Themes	CH Risks and Issues
Scotland & Northern Ireland	Gaelic language; emigration and diaspora; tangible and intangible Celtic Christian and pre-Christian religious heritage; small-holder crofting culture; inshore fisheries and industrial maritime heritage	Decreasing and aging population; declining base for services and economic activity; declining central government budgets under austerity policies; marine renewable energy and aquaculture; post-Brexit fisheries policy; poor recruitment in fisheries; lack of sensitivity to CH in Blue Growth developments

Current risks to CH in the Scotland and Northern Ireland case region are related to decreasing and aging population; declining base for services and economic activity; declining central government budgets under austerity policies; marine renewable energy and aquaculture; post-Brexit fisheries policy; poor recruitment in fisheries; lack of sensitivity to CH in Blue Growth developments. In addition to these, the main threats that emerged were the rate of climate change (rather than change itself necessarily), the diversity of CH that needs protecting, reduction in budgets, loss of knowledge through depopulation and growing demands of tourism.

2.6 Brittany Case Region

The key cultural heritage stakeholder groups found in the Brittany case region include those in the tourism, fisheries, aquaculture, and military sectors, as well as those in local communities, in marine policy/planning, in municipalities, and local crofters.

Brittany is the premier maritime region in France, with 2,730 km of coast along the English Channel, the Celtic Sea and the Bay of Biscay, and its second most important touristic region. Evidence of prehistoric human settlements along the coast have been found and standing stones constitute major heritage from that period; megaliths are also found below sea level, which was lower in earlier times. Following a long tradition in coastal and maritime fishing, Brittany is still today the most important region for fishing, as well as shellfish culture, in France. This maritime tradition extends to both the merchant navy and the military navy, Brittany being home to major military harbours. Traditional sailing boats are valued in many places and sailing, as a leisure activity, is a major component of the Brittany economy. Within Breton culture and its Celtic tradition, maritime tangible and intangible heritage is extensive today and a key asset in the attractiveness of Brittany's tourism sector. Along the coast many signs of past activity can be found and much effort is devoted to preserving these signs as the coast continues to be under strong pressure for further development and urbanisation. Erosion and rising sea level threaten this coastal heritage. As the Breton language lies for a large part in an oral tradition that has been suppressed

in the first half of the 20th century, the recollection of intangible CH has been, and still is, a challenge. Many of the maritime traditions of Brittany are found in museums, festivals and other activities in which relevant actors and the public are engaged.

An inventory of marine-related traditional activities and CH is being compiled (shellfish farming, traditional sailing boats, etc.) in PERICLES. In addition, a landscape observatory is being developed as an underwater landscape extension. Seaweed harvesting as heritage is also being promoted to support new ways to develop seaweed sector.

Table2.5.1: Listing of tangible and intangible CH in the Brittany Case Region

Case Region	Tangible CH	Intangible CH
Brittany	Port infrastructure; seaweed burning pits; built architecture; archeological sites;	Celtic language and oral traditions, extractive techniques and skills;

Table2.5.2: Listing of tangible and intangible CH in the Brittany Case Region

Case Region	CH Themes	CH Risks and Issues
Brittany	Built and landscape architecture of coastal towns; marine parks; traditional extractive methods: fisheries and shellfish farming; Celtic tradition; sailing heritage; prehistoric settlements	Overlooked fisheries heritage; top-down initiatives lacking citizen participation; erosion; rising sea levels; pressure from urbanisation and development; oral tradition of Breton language compromises recollection

Current risks to CH in the Brittany case region are related to lack of knowledge, poor governance, climate change, urbanization, and population decline (Breton speakers).

2.7 Portuguese Aveiro Case Region

The key cultural heritage stakeholder groups found in the Portuguese Aveiro case region include those in the education, tourism, fisheries , salt and fish processing sectors, as well as those in local communities, municipalities, the scientific community, and in marine policy/planning.

The Ria de Aveiro region coastal area extends for approximately 45 km, with a width of 8.5 km, integrating 11 municipalities, and is characterized by the presence of an extensive lagoon occupying about 110km^2. The lagoon is one of the largest, most biologically significant coastal wetlands in Portugal and is classified under Natura 2000. The lagoon links urban and rural areas by canals, offering a unique landscape and many traditionally economic important activities, such as fishing, salt production, seaweed gathering, shellfish gathering, aquaculture and agriculture, as well as newer economic opportunities such as coastal and marine sports and tourism.

The local population has a long tradition linked to the sea and to the salt marsh lagoon and fishing and salt production have always been important activities for the economic development of the region. The fishing communities in the region used to be strongly involved in the long-distance cod fishing, and Aveiro holds the only cod-fishing museum in the country. The region was also the most important in Portugal in terms of preparing and processing cod, strongly related to the enormous salt production in the lagoon (an activity first registered in the lagoon in 959CE). Other traditional activities, with a strong cultural identity in the region, include the traditional boat industry (the “moliceiro” – a wooden boat to

transport algae ("moliço") is the symbol of the city of Aveiro), beach seine ("xávega", a traditional fishing method, UNESCO world heritage status applied for in 2016), and the canning industry.

These traditional activities suffered a steep decline in the last decades with a consequent disappearance of natural (in the case of saltpans), social and cultural values associated to them, as well as the cultural anthropogenic landscape. Some of these activities are now coming back, with the emergence of new entrepreneurship initiatives in recent years, focusing on these traditional activities for tourist purposes. Despite the recent interest in traditional activities, several of these activities still face threats and without scientific support, some of the new initiatives present some risks/threats to cultural, natural and ethnographic/historic heritage. These spaces represent more than a cultural landscapes and seascapes. Salt workers and fishermen, together with their families, where women play a role, hold traditions and histories, and sustain a "sense of belonging", that could be transmitted to the residents and tourists (Coratza et al., 2016; Gauci et al., 2017).

The focus of this case region within the framework of PERICLES is to understand, preserve and harness CH in the Aveiro region. An inventory of marine-related traditional activities and CH in the region (shellfish farming, traditional saltpans, fisheries, etc.) will be compiled in order to provide an historical depth to our knowledge on CH in the area. There is a need to balance cultural heritage with contemporary society needs (specially related to tourism), uncovering maritime heritage as a means for place making and tourism. This case study will promote capacity building by developing a course focused on explaining the history of the traditional activities in the region, their evolution and link to anthropogenic cultural landscapes, such as saltpans and fishing villages, traditional boats, and how this cultural heritage can be understood, preserved and disseminated aimed at tourist operators. Many of the maritime traditions of Aveiro are in festivals (e.g. gastronomic, religious) and other activities in which relevant actors and the public are engaged. By providing a deeper understanding of the region's maritime and coastal cultural heritage, we intend to analyse how opportunities supported in CH-tourism and gastro-tourism can promote traditional activities adapted to new demands.

Table2.6.1: Listing of tangible and intangible CH in the Portugal Case Region

Case Region	Tangible CH	Intangible CH
Portugal-Aveiro	Port infrastructure; Traditional boats; traditional saltpans); salt production wood tools;	Salt production traditional techniques; boat building traditional techniques; culinary traditions; cod fishing and processing, traditional fishing techniques (arte xávega)

Table2.6.2: Listing of tangible and intangible CH in the Portugal Case Region

Case Region	CH Themes	CH Risks and Issues
Portugal-Aveiro	One of the largest wetland in Portugal; Traditions of salt production, seaweed gathering, agriculture; cod fishing and processing; boat building; fish canning; traditional extraction (beach nets, seaweed & saltpans); seafaring; shellfish farming; religious heritage; Natura 2000 site	Disappearance of saltpans; erosion of social and cultural values, histories and cultural disconnection between tourism industry needs and training programs; impacts of climate change (e.g. coastal erosion); urban sprawl

Current risks to CH in the Aveiro case region are related to the disappearance of saltpans; erosion of social and cultural values, histories and cultural; disconnection between tourism industry needs and training programs related to tourism; impacts of climate change (e.g. coastal erosion); urban sprawl.

2.8 Malta Case Region

The key cultural heritage stakeholder groups found in the Malta case region include those in the tourism and fisheries sectors, nature and heritage conservation organisations, as well as the local community members.

The focus of this case study is to understand, preserve and harness CH in the Maltese archipelago. The archipelago, of which the three largest islands (Malta, Gozo and Comino) are inhabited, is situated in the centre of the Mediterranean Sea, about 90 km south of Sicily and 320 km north of Libya. Its geographical position has given Malta strategic importance throughout history and a rich heritage. In several places on the islands, remains of prehistoric Megalithic temples can be found more than 5000 years old. Further, foreign rulers - from the Carthaginians, Romans, and Byzantines to the Normans, Arabs, Spanish, and, more recently, the British (1814-1964) - have conquered, governed and left their material heritage on the islands. Given the claim that Saint Paul had been shipwrecked on Malta and the long rule by the Knights of Saint John (1530-1798), there is a strong Catholic legacy. Every town has at least one parish church, and until today name days of patron saints are celebrated with "festas", including religious processions, marching bands and spectacular fireworks. The island's coasts also hold many historical forts, watchtowers and walls build during the rule of the Knights to defend the Malta.

Malta is a very popular tourist destination, and the country depends heavily on its tourism industry in terms of GDP. In 2015, 1.6 million tourists visited Malta, which was three times more than there are residents. Most Maltese live on the island Malta, more specifically in its capital city Valletta. Valletta was built in the 16th century, and is the country's main cultural centre. Valletta is the European Capital of Culture in 2018, together with a Dutch city Leeuwarden. Other towns on Malta (e.g., Sliema, St Julian's, Bugibba and St Paul's Bay) are also very busy and touristy towns, yet the latter two only in the summer months. The same goes for Marsaxlokk, an old traditional fishing village in the South, but locals frequent Marsaxlokk all year round to visit the fish market or one of the many in fish restaurants. The islands of Gozo and Comino are less crowded, yet have many historical sites, such as prehistoric temples, forts, churches and old stone farmhouses, situated in a more quiet and country-like landscape.

In addition to cultural heritage, Malta has a rich natural heritage, attracting tourists such as divers, bird watchers, seafood lovers and recreational fishers. Both Gozo and Comino are known for some of the Mediterranean's best dive sites. Although the country has very few resident birds, it is strategically located for birds migrating between European breeding and African wintering grounds. Part of the Malta–Gozo Channel has been designated as Important Bird Area (IBA) by BirdLife International. Tourists as well as locals (notably British expats) look for the best sites to spot birds, though many of the non-urbanized areas in islands are agricultural lands. In addition, (illegal) hunting and trapping is considered a problem by bird lovers, while others consider hunting and trapping to be an important Maltese tradition. The Maltese Archipelago is also key node on the migratory paths of many fish stocks, including highly migratory species. These are found on the menu of almost every restaurant (e.g. Groupers, Lampuka/dolphinfish), even though some stocks are under serious threat or can be linked to severe ecological impacts like habitat destruction and/or harmful effects for vulnerable species like dolphins, seals, whales, turtles and sharks.

Like on many islands, there is concern about direct and indirect impacts of climate change, such as changes in sea level and temperature, more variability and unpredictability in rainfall patterns and high(er) humidity and air temperature, especially in summer. For example, prehistoric and historical remains along Malta's coasts are increasingly exposed to the sea due to erosion. It has also been indicated that there might be opportunities to extend the tourist season into the shoulder seasons,

thereby increasing the need for accommodation and pressure on natural sites and monuments. Climate change is however not only associated with threats (and opportunities) for tourism; Malta also anticipates challenges for the agriculture and fishery sectors, and foresees problems with water resources and its population's health.

In PERICLES, we will explore how Malta can balance between its multifaced characters as described above, and how Malta can deal with climate change adaptation. Activities in this case region will include citizen science cultural heritage mapping work common to all case studies, and three targeted local demos that deal with key threats and opportunities in relation to CH.

Table2.7.1: Listing of tangible and intangible CH in the Malta Region

Case Region	Tangible CH	Intangible CH
Malta	Historic architecture (churches, watchtowers, forts, temples, catacombs).	Culinary traditions; hunting and trapping traditions; fireworks skills

Table2.7.2: Listing of tangible and intangible CH in the Malta Region

Case Region	CH Themes	CH Risks and Issues
Malta	Tangible CH from multiple historic eras and cultures (megalithic temples and catacombs); seafood; balancing natural and cultural heritage	Growth and reliance on tourism; threats to fish stocks; climate change; challenges for agriculture and fishing; water resource issue and health concerns; refugee crisis;

Current risks to CH in the Malta case region are related to climate change, tourism growth, and over-fishing.

2.9 Aegean Sea Case Region

The key cultural heritage stakeholder groups found in the Aegean Sea case region include those in the Education, tourism, and fisheries sectors. Additional ones include those in the local communities, as well as in the scientific community, and the fish processing industry**.**

The Aegean Sea with its extensive coastline (16.000 km) and its archipelago of over 6.000 islands, large and small, is characterized by a remarkable environmental and cultural variability, which has been shaped by its complex geological and long cultural history. The notion of “cultural keystone places”, locations that hold particular importance today because of the shared memories, lessons and experiences embedded in them through long engagement of people and physical world successfully describes the proposed case study area. We choose to focus on one aspect of CH, the exploitation of aquatic resources. Although the sea and its resources had a distinct presence in the Greek culture from as early as the 11th millennium BP, there are certain areas that developed very rich and long-lived fishing traditions which shaped the identity and worldviews of coastal people, as well as complex economies that were based on the exploitation of marine resources, their processing and their participation in regional and distant markets. The ecological and biological background of these developments is little explored, even though considerable research has been done in the modern fisheries. The processes involved and the particular cultural features of the coastal maritime communities in the Aegean, past and present, are also little studied. However, the existing research, that has either a historical or an

anthropological orientation, clearly demonstrates the richness of this aspect of CH (Bernard 1976; Bada 2004; Mylona 2008; Dimitropoulos and Olympitou 2010; Olympitou 2014).

This case study focuses on the Northeast Aegean Sea, between Chalkidiki Peninsula and a line defined by the estuary of Evros River and Samothrace island (current boarders with Turkey). As it is noted by Somarakis and Nikolioudakis (2007) the peculiar oceanographic conditions of the North Aegean (influenced from Black Sea and the outflows of large rivers such as Aliakmon, Strymon, Nestos and Evros) have permitted the Thracian Sea to become one of the most rich fishing grounds of the Eastern Mediterranean with very high primary productivity (Bosc et al., 2004). It is also important to mention that due to these oceanographic conditions the Thracian Sea is characterized as an important Marine Productivity Hotspot (MPH) (Valavanis and Smith 2007, Maina et al. 2014) with high degree of biodiversity (Labropoulou, 2007). Besides the ecological importance of NE Aegean coasts and the Thracian Sea, this area is also important culturally; its populations is mixed, settling in at various stages in history, with the latest being the massive influx of Greek refugees from Asia minor, Eastern Thrace and Black Sea coasts at the beginning of the 20th century, the wave of Balkan immigrants in the 1990s and currently, the refugees of the Syrian War. In cases, these populations may have re-introduced aspects of CH that had been lost due to specific historical circumstances.

Against this basic background, the area has developed a rich coastal heritage that includes a variety of aspects. This case study focuses on a formative element of this heritage, the intensive and quite diverse fishing sector that includes fisheries targeting the lagoonal resources, the pelagic fish, mostly tunas, pelamids, anchovies and sardines and also the fish processing industry and the seafood local cuisine. The fishing aspect of CH in this area is seriously threatened by changes imposed by global environmental change, but also human activities on a local and supra-regional level; pollution, touristic development of the coasts, overfishing, but also changes in the hydrologic balance between fresh water discharge and salt water being some of them. The need for sustainable fisheries and management of the coastal zone and resources has already been advocated both in national and in EU level but actions towards this goal have so far mostly focused on the physical elements of the marine and coastal ecosystems and on the economics of fisheries. It is increasingly realized, however, that cultural heritage can be crucial in a successful sustainable development of coastal areas. Nature and culture are two interdependent elements and therefore we cannot understand and manage the 'natural' environment unless we understand the human culture that shaped it. Thus, cultural activities are important for strengthening the link between humans and the sea, while the cultural values that result from this process are a basic prerequisite for marine conservation and the sustainable use of their resources and services.

Table2.8.1: Listing of tangible and intangible CH in the Aegean Sea Region

Case Region	Tangible CH	Intangible CH
Aegean Sea	Archaeological sites; fishing tools, including lagoonal fish trapping systems (dalyani); fishing boats; cult places related to fishing activities; fish processing plants; coastal landscapes.	Fishing methods and ways (knowledge), culinary knowledge, fish processing knowledge; maritime and fishing history; oral history around fishing and coastal living;

Table2.8.2: Listing of tangible and intangible CH in the Aegean Sea Region

Case Region	CH Themes	CH Risks and Issues
Aegean Sea	Aquatic resources; fishing traditions; intangible aspects of the resource exploitation; marine knowledge, skills, legends and beliefs; development of iconic fisheries; fish processing; fishing history; physical environment and related fishing industry	Limited exploration of ecological and biological background of fishing traditions; pollution; pressures from touristic development of the coasts; overfishing; changes in the hydrologic balance between fresh water discharge and salt water; the financial crisis; cultural prejudices; structure changes in fishing population

Current risks to CH in the Aegean Sea region are related mostly to human factors (e.g. fisheries management policies, changes in population structure, economic crisis, touristic or industrial development with no regard to CH), but also to environmental changes in global and local level including pollution, hydrological imbalance in lagoonal ecosystems, etc.

3 Comparing Indicators and Themes

Section 3.1 compares the key indicators of CH being addressed in the PERICLES project. Crosscutting themes are presented in 3.2

3.1 Cultural Heritage Key Indicators and Variables

The PERICLES project intentionally chose a broad number of case regions-- and demos within them-- so that the project could have breadth, but also depth since comparisons can be made across the regions. The fact that these can be compared across different cases add strength to the discussions on the CH types and associated risks in order to ensure a variety of CH being addressed in our framework for the preservation and utilization of CH.

The shared types of CH in our work include:

Tangible Heritage

- Archeological, land-based sites including prehistoric coastal forts and defensive settlements, medieval castles, cairns, Christian chapels and settlements, watchtowers, and temples
- Archeological underwater sites and heritage, including shipwrecks, submerged WWII aircraft, submerged ports
- Built architecture, including lighthouses
- Coastal landscapes, including coastal defenses and structures
- Cultural sites related to fishing activities
- Fisheries tools, including trapping systems
- Fish and marine product processing plants and systems, including saltpans, salt production tools and seaweed burning pits
- Handicrafts related to sea and sea-based livelihoods and culture
- Landing places, ports, and port infrastructure
- Marine protected areas, including those historic
- Ships and boats

Intangible heritage

- Boat building techniques
- Culinary knowledge and traditions
- Fisheries knowledge, harvesting and processing techniques (broad, including all marine products and salt)
- Handicraft production knowledge related to sea and sea-based livelihoods and culture
- Hunting and trapping knowledge and traditions
- Language (including, e.g., Celtic and Kihnu), oral traditions, history, stories, and rituals (Atlantic, Baltic, Scottish/Irish regions), surrounding fishing and coastal and maritime living
- Maritime and seafaring knowledge and techniques, including historic networks
- Maritime and Seafaring history
- Socio-ecological systems (e.g., Wadden Sea and Brittany)
- Songs

In addition to these shared variables, demos will also address:

- Fireworks knowledge and skills
- Mudflat hiking

3.2 Cross-cutting Themes and Risks

This section presents a summary of both the Crosscutting themes and the risks to CH found in PERICLES Case Region demos. Themes address such topics as fishing heritage and memory; pressures, threats and risks, such as intensity of tourism pressures, demographic challenges; policy integration challenges such as marine planning; and opportunities through harnessing CH assets for sustainable growth, new career and business opportunities, community development.

3.2.1 Cross-cutting Themes- Grouping Cultural Heritage

Task 2.2 “Overview of CH and land/seascapes in PERICLES case regions”, which is currently on-going, provides extensive details on the demos in Case Regions. This section (3.2.1) of D2.1 provides a brief summary of this on-going research. Initial analysis on the on-going case region demos and descriptions shows that there are seven main themes surrounding the PERICLES CH work:

1. Traditional practices
2. Industrial heritage
3. Gastrotourism
4. Blue Growth, including tourism
5. Marine Spatial Planning
6. Coastal adaptation (climate change)
7. Coastal path

Table 3.2.1 Themes and Case regions demos where they are found

Theme	Case Regions Demos where the themes are found
Traditional Practices	P3 B4 D3 P2 B5 W3 A1 A2
Industrial Heritage	SI2 A3 D2 A2
Gastrotourism	M1 P4 SI3 W2 A1
Blue Growth	D1 E2 SI4 M2 D4
Marine Spatial Planning	E1 P1 B4 SI1
Coastal Adaptation	M3 W1 B1 B2
European Coastal Path	E3 B2

Themes address such topics as fishing heritage and memory; pressures, threats and risks, such as intensity of tourism pressures, demographic challenges; policy integration challenges such as marine planning; and opportunities through harnessing CH assets for sustainable growth, new career and business opportunities, community development.

3.2.1.1 Traditional Practices

Themes address such topics as fishing and maritime heritage and memory, knowledge transfer of boat building skills, adapting traditional boats to new uses; knowledge transfer of fisheries (broad maritime, including salt and seaweed) harvesting and processing skills; traditional roles of women in fisheries society; language arts.

3.2.1.2 Industrial Heritage

Themes under industrial heritage focus primarily on ports and harbours and port infrastructure, including larger cities (e.g., Belfast) and smaller ones (e.g., Vilsund), but also fish processing plants, salteries etc.

3.2.1.3 Gastrotourism

Gastrotourism is a well-populated theme, with demos taking place on this theme in almost half of the case regions (e.g., Malta, Aegean, Portugal, Scotland-Ireland and the Wadden Sea)

3.2.1.4 Blue Growth

Blue Growth is a broad theme, but basically surrounds the idea of using tangible and intangible cultural heritage in forming new economic opportunities, as well as using the landscape for these same opportunities. Examples include new uses for industrial port area (e.g., Vilsund) and using a history of the sea for new uses- e.g., modern water sports, as well as focusing on development-heritage

Interactions (e.g., Estonia and Scotland-Ireland)

3.2.1.5 Marine Spatial Planning

As more Member States, regions, and municipalities seek to use the sea for new industrial and business uses, a need for planning the space is growing. In some cases, this means saving space for traditional CH uses; in others it means using the space in novel ways and working together in novel ways (transboundary issues). Examples include integrating CH into coastal and maritime spatial planning (Denmark, Estonia, Scotland-Ireland, Wadden Sea).

3.2.1.6 Coastal Adaptation (climate change)

CH is at risk not only from direct human pressures, but also through human-induced climate change. Thus, adaptation planning is a part of demos in the Wadden Sea, Brittany, and Malta).

3.2.1.7 European Coastal Path

A number of demos also focus on "heritage trails" whether that being culinary in nature (e.g., Portugal) or other. Since two of the case regions are in areas which include the relatively new European Coastal Path, this has been incorporated into planned work. For example, in Estonia, the underwater cultural heritage in the area of the European Coastal Path (ECP) will be presented and documented for inclusion in literature and information on the ECP.

3.2.2 Cross-cutting Themes: Risks to Cultural Heritage

The use of CH in blue growth initiatives provides the potential for jobs and a better economy for many areas. Yet, doing so also increases the pressure and risks to CH which in many cases are also at risk. These risks include:

Risks from usage of the seascape and use of CH

- Cultural disconnection between tourism industry needs and training programs;
- Financial crisis
- Governance, including
    a. Divided governance;
    b. Conflicts between exploitation (gas extraction and fisheries) and nature conservation
    c. Deregulation of the strong protection of coastal areas
- Increased attention to the marine and maritime environment
- Lack of sensitivity to CH in Blue Growth developments
- Marine renewable energy and aquaculture
- Tourist-related growth and development of the coasts

Risks from humans and human living— including a changing society

- Changes in the hydrologic balance between fresh water discharge and salt water
- Climate change
- Demographic changes (loss of population, aging population)
- Disappearance of saltpans
- Erosion of social and cultural values
- Erosion of coastal landscape
- Financial: declining base for services and economic activity, declining central government budgets under austerity policies
- Overfishing, threats to fish stocks
- Pollution
- Post-Brexit fisheries policy
- Refugee crisis
- Structural changes in the fishing population
- Top-down initiatives lacking citizen participation
- Urban sprawl
- Water resource issue and health concerns

Risk from neglect

- Cultural prejudices

- Development and policy development without regard to tangible CH
- Limited exploration of ecological and biological background of fishing traditions
- Loss of oral traditions and local language
- Overlooked fisheries heritage
- Risk from outmigration; increased pressures from tourism
- Poor stock status; deregulation of the strong protection of coastal area

Maritime and coastal cultural heritage is currently at risk from a variety of factors, including those found within the themes, of usage, risks from humans and human society, and risks from neglect.

4 Conclusions

The purpose of Deliverable 2.1 was to provide a summary of the key indicators and crosscutting themes found in PERICLES case regions for project partners for comparative, analytical purposes for the initial, project research. Combined with the results from the related and supplementary work in Task 2.2 "Overview of CH and land/seascapes in PERICLES case regions," this summary is critical for setting the stage and background for the subsequent WPs 3-5.

In this report, the case regions were described with key variables (indicators) grouped, compared and contrasted by key indicators such shared CH type. These shared variables included both tangible and intangible heritage:

Tangible Heritage

- Archeological, land-based sites including prehistoric coastal forts and defensive settlements, medieval castles, cairns, Christian chapels and settlements, watchtowers, and temples
- Built architecture, including lighthouses
- Coastal landscapes, including coastal defenses and structures
- Cultural sites related to fishing activities
- Fisheries tools, including trapping systems
- Fish and marine product processing plants and systems, including saltpans, salt production tools and seaweed burning pits
- Handicrafts related to sea and sea-based livelihoods and culture
- Landing places, ports, and port infrastructure
- Marine protected areas, including those historic
- Ships and boats
- Underwater archeological sites and heritage, including shipwrecks, submerged WWII aircraft, submerged ports

Intangible heritage

- Boat building techniques
- Culinary knowledge and traditions
- Fisheries knowledge, harvesting and processing techniques (broad, including all marine products and salt)
- Handicraft production knowledge related to sea and sea-based livelihoods and culture
- Hunting and trapping knowledge and traditions
- Language (including, e.g., Celtic and Kihnu), oral traditions, history, stories, and rituals (Atlantic, Baltic, Scottish/Irish regions), surrounding fishing and coastal and maritime living
- Maritime and Seafaring knowledge and techniques, including historic networks
- Maritime and Seafaring history
- Socio-ecological systems (e.g., Wadden Sea and Brittany)
- Songs

Following the presentation of these above variables, the cross-cutting themes found within PERICLES case regions were presented for use in future PERICLES work on the framework. These themes included Traditional practices, Industrial heritage, Gastrotourism, Blue Growth, including tourism, Marine Spatial Planning, coastal adaptation (climate change), and coastal paths.

The use of CH in Blue Growth initiatives provides the potential for jobs and a better economy for many areas. Yet, doing so also increases the pressure and risks to CH, which in many cases were already at risk from other sources. Maritime and coastal cultural heritage is currently at risk from a variety of factors, including those found within the themes of **risk from usage**, **risks from humans and human society**, and **risks from neglect**.

This deliverable is meant to serve as a summary document, from which in-project, comparative future demo work and discussions will be drawn.